

IN THE CLAIMS

This listing of claims replaces all prior listings:

1. (Currently Amended) Vibration gyro circuitry comprising:
a differential amplifier circuit for outputting a signal corresponding to a difference between output signals of two detection pieces of a vibration gyro;
a synchronous detection circuit for performing synchronous detection on the output signal of the differential amplifier circuit; and
a phase shift circuit for supplying to the synchronous detection circuit a signal, as a timing signal for the synchronous detection, which is phase-shifted with respect to a drive signal supplied to the vibration gyro,
wherein,
the phase shift circuit sets a phase difference between the drive signal and the timing signal is set to be greater than 90 degrees on the basis of a phase difference characteristic of a detection sensitivity for the output signal of the differential amplifier circuit, the phase difference characteristic being obtained in advance under a condition where a rotational angular velocity is applied to the vibration gyro in a driving state.

2. (Original) The vibration gyro circuitry of claim 1, wherein the phase shift circuit includes an integrating circuit having a resistor and a capacitor, the integrating circuit being input with the drive signal and delaying the drive signal by the phase difference determined by time constants of the resistor and the capacitor.

3. (Currently Amended) A vibration gyro unit comprising:
a vibration gyro having two detection pieces;
a differential amplifier circuit for outputting a signal corresponding to a difference between outputs of the detection pieces;
a synchronous detection circuit for performing synchronous detection on the output signal of the differential amplifier circuit; and

a phase shift circuit for supplying to the synchronous detection circuit a signal, as a timing signal for the synchronous detection, which is phase-shifted with respect to a drive signal supplied to the vibration gyro,

wherein,

the phase shift circuit sets a phase difference between the drive signal and the timing signal ~~is set~~ to be greater than 90 degrees on the basis of a phase difference characteristic of a detection sensitivity for the output signal of the differential amplifier circuit, the phase difference characteristic being obtained in advance under a condition where a rotational angular velocity is applied to the vibration gyro in a driving state.

4. (Original) The vibration gyro unit of claim 3, wherein the phase shift circuit includes an integrating circuit having a resistor and a capacitor, the integrating circuit being input with the drive signal and delaying the drive signal by the phase difference determined by time constants of the resistor and the capacitor.

5. (Currently Amended) A method for detecting a vibration gyro output, ~~in which~~ the method comprising:

performing synchronous detection ~~is performed~~ on a signal corresponding to a difference between output signals of two detection pieces of a vibration gyro,

phase-shifting using a timing signal ~~which is phase-shifted~~ with respect to a drive signal supplied to the vibration gyro, so that a rotational angular velocity applied to the vibration gyro is detected,

wherein,

the phase shift circuit sets a phase difference between the drive signal and the timing signal ~~is set~~ to be greater than 90 degrees on the basis of a phase difference characteristic of a detection sensitivity for the signal corresponding to the difference between the output signals of the detection pieces, and the synchronous detection is performed using the timing signal which is phase-shifted by the set phase difference with respect to the drive signal.

6. (Original) The method for detecting a vibration gyro output of claim 5, wherein the phase difference is set by adjustment of a resistance of a resistor included in an integrating

circuit having the resistor and a capacitor, the integrating circuit being input with the drive signal and delaying the drive signal.

7. (Original) The method for detecting a vibration gyro output of claim 5, wherein the phase difference is set by adjustment of a capacitance of a capacitor included in an integrating circuit having a resistor and the capacitor, the integrating circuit being input with the drive signal and delaying the drive signal.

8. (New) The vibration gyro circuitry of claim 1, wherein the phase difference is greater than or equal to 110 degrees and less than or equal to 150 degrees.

9. (New) The vibration gyro unit of claim 3, wherein the phase difference is greater than or equal to 110 degrees and less than or equal to 150 degrees.

10. (New) The method for detecting a vibration gyro output of claim 5, wherein the phase difference is greater than or equal to 110 degrees and less than or equal to 150 degrees.